Claims

1. A mechanical face seal assembly comprising at least a single pair of seal rings (4, 5) having opposed seal faces (9, 10) held in sealing engagement with each other, one of said seal rings being non-rotatable and the other for common rotation with a rotary component, both of said seal rings being formed of a SiC material, for at least one of said seal rings a graphite component being added to said SiC material, characterized in that the graphite component is in particulate form in a proportion of between 1.0 and 4.0 Vol %, preferably 1.5 and 3.0 Vol %, and most preferably between 1.8 and 2.5 Vol %, in a SiC matrix material comprising SiC crystals having a grain size of between 5 and 1500 μm, preferably 10 and 1000 μm.

2. The mechanical face seal assembly according to claim 1, characterized in that the grain size of the graphite particles amounts to between 20 and 200 μm, preferably 40 and 150 μm, and most preferably to between 50 and 120 μm.

3. The mechanical face seal assembly according to claim 1, characterized in that the seal faces (9, 10) of the seal rings (4, 5) are worked to provide a degree of roughness R_k of between 0.05 and 0.4 μm, preferably 0.1 and 0.4 μm, more preferably 0.15 and 0.3 μm and most preferably of 0.25 μm.

4. The mechanical face seal assembly according to claim 1, characterized in that both seal rings (4, 5) are formed in a same manner.

5. The mechanical face seal assembly according to claim 1, characterized in that only one of the seal rings (4, 5) comprises the graphite component.

6. The mechanical face seal assembly according to claim 1, characterized in that the SiC crystals are provided in an essentially plate-like form.

7. The mechanical face seal assembly according to claim 1, wherein the graphite component is distributed essentially uniformly in the SiC material.